



## Commercial Energy Saver Electric Surface Mounted Thermostats and Immersion Thermostats with Contactors

These water heaters meet or exceed the performance standards established under ASHRAE 90.1b (current edition).

### Features:

**ISO 9001** Bradford White is ISO registered to the 9001- standard.

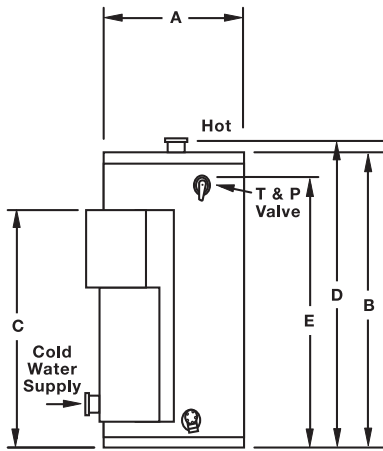
- **Surface mounted thermostat step control (modulation)**—can be accomplished by variable setting on thermostats (each element has an individual thermostat and high limit.)
- **Immersion thermostats**—Immersion type for accurate temperature control from positive off to 180°F (82°C) with manual reset high limit control.
- **3" (76mm) Non-CFC foam insulation.**
- **Vitraglas® lined tank**—Bradford White water heater tanks are protected from the corrosive effects of hot water by an exclusive ceramic porcelain-like coating. The Bradford White high silica Vitraglas® lining provides a tough interior surface for water heater tanks, which must withstand the wearing effects of high volume and high temperature hot water.
- **Factory installed Hydrojet® Sediment Reduction System**—cold inlet sediment reduction device made of stainless steel for increased durability. Helps minimize sediment build up in tank.
- **Factory installed dielectric fittings**—all heaters equipped with special water heater nipples for longer heater life. No special dielectric fittings to buy.
- **Elements**—screw in style. **Surface mounted thermostat** models have elements made of nickel chromium wire embedded in magnesium oxide, sheathed in copper and electroplated to minimize degradation of the anode. Incoloy sheathed elements are optional. **Immersion thermostat** models have low watt density incoloy sheathed elements standard which resists burnout caused by dry fire or lime buildup.
- **Two magnesium anode rods**—employed to provide an extra measure of corrosion prevention for longer life.
- **Hand hole cleanout opening.**
- **50, 80 and 119 gallon capacities (189, 303 and 450 Liters)**
- **ASME construction available**—on surface and immersion thermostat models.
- **NSF construction available.**
- **Brass drain valve.**
- **Factory installed temperature and pressure relief valve.**
- **Completely pre-wired**—with pressure lug terminal block eliminating need for splicing or taping of wires.
- **Three year limited warranty**—protects your investment in a quality glass lined heater. If the tank leaks for reasons of faulty materials, workmanship or corrosion within the warranty period, the heater will be replaced with a comparable heater of our manufacture. (Exclusive of all shipping and re-installation costs). See complete copy of the warranty included with the heater.
- **One year limited parts warranty**—These quality components are manufactured for us by industry leaders and will be replaced in the event of failure during the parts warranty period (exclusive of shipping and re-installation cost.)

MANUFACTURED UNDER ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,954,492; 5,761,379; 5,943,984; 5,081,696; 5,988,117; 6,142,216; 5,199,385; 6,684,821; 5,574,822; 5,372,185; 5,485,879; 5,277,171; (B1)5,341,770; 5,660,165; 5,596,952; 5,682,666; 4,904,428; 5,023,031; 5,000,893; 4,669,448; 4,829,983; 4,808,356; 5,115,767; 5,092,519; 5,052,346; 4,416,222; 4,628,184; 4,861,968; 4,672,919; Re. 34,534. OTHER U.S. AND FOREIGN PATENT APPLICATIONS PENDING. CURRENT CANADIAN PATENTS: 1,272,914; 1,280,043; 1,289,832; 2,045,862; 2,112,515; 2,108,186; 2,107,012.



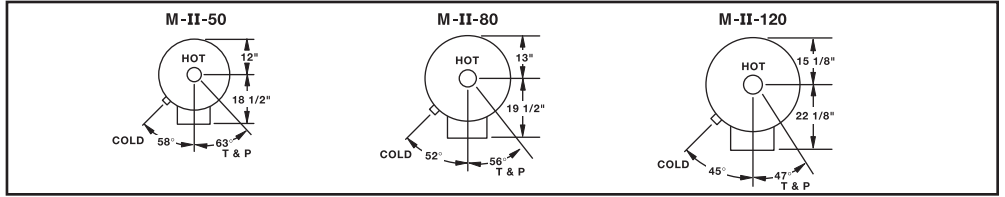
# Commercial Electric Energy Saver

## Dimensions



Model	Gallon/Liter Capacity	Jacket Diameter in./mm	Height Top in./mm	C Ft. to Top of Control Box in./mm	D Ft. to HW Outlet in./mm	E Ht. Ft. to T&P Valve in./mm	Water Conn. in./mm	Approx. Shipping Weight Lbs./Kg. Lbs./Kg.	
								Std.	ASME
M-II-50-kW-3SF	50/189	24/610	47 3/4/1213	46 1/4/1181	49 3/4/1251	41/1041	1 1/2/38	270/122	302/137
M-II-80-kW-3SF	80/303	26/660	60 1/4/1530	46 1/4/1181	61 3/4/1568	52 1/2/1334	1 1/2/38	335/152	378/171
M-II-120-kW-3SF	119/450	30 3/4/768	64 1/2/1638	50 1/4/1276	66/1676	55/1397	1 1/2/38	430/195	485/220

Relief Valve Opening 3/4". 150 PSI Working Pressure. 300 PSI Test Pressure. All dimensions in inches/mm. (A) ASME Construction Available For ASME Construction add "A" to the model number. Example: M-II-50A-12-3SF, 240 Volt, single phase. All models shown above are for Surface Mount thermostats. For Immersion thermostat change suffix "SF" to "CF".



## Electrical Characteristics

Number of Elements (Fused Models)\*

Full Load Current Amperes (Fused Models)\*

kW Input	Number of Elements (Fused Models)*									Full Load Current Amperes (Fused Models)*										
	208 Volts Phase		240 Volts Phase		277 Volts Phase	380 Volts Phase	415 Volts Phase	480 Volts Phase		600 Volts Phase	208 Volts Phase		240 Volts Phase		277 Volts Phase	380 Volts Phase	415 Volts Phase	480 Volts Phase		600 Volts Phase
	1	3	1	3	1	3	3	1	3	3	1	3	1	3	1	3	3	1	3	3
6	3(2)	3	3(2)	3	3	3	3	3(2)	3	5.8	28.8	16.6	25.0	14.4	21.6	10.0	9	12.5	7.2	5.8
9	3	3	3	3	3	3	3	3	3	8.7	43.2	25.0	37.2	21.6	32.4	14	13	18.7	10.8	8.7
12	3	3	3(2)	3	3	3	3	3(2)	3	11.5	57.6	33.3	50.0	28.9	43.3	19	17	25.0	14.4	11.5
13.5	3	3	3	3	3	3	3	3	3	13.0	64.9	37.5	56.2	32.5	48.7	21	19	28.1	16.2	13.0
15	3	3	3	3	3	3	3	3	3	14.4	72.1	41.6	62.5	36.1	54.1	23	21	31.2	18.0	14.4
18	3	3	3	3	3	3	3	3	3	17.3	86.5	50.0	75.0	43.4	64.0	28	25	37.5	21.6	17.3
24	4	6	4	6	4	6	6	4	6	23.1	115.4	66.7	100.0	57.8	86.6	37	34	50.0	28.9	23.1
27	6	6	6	6	6	6	6	6	6	26.0	129.8	75.0	112.5	65.0	97.4	41	38	56.2	32.5	26.0
30	6	6	6	6	6	6	6	6	6	28.5	144.2	83.3	125.0	72.2	108.3	46	42	62.5	36.1	28.9
36	6	6	6	6	6	6	6	6	6	34.6	173.0	100.0	150.0	86.7	129.9	55	50	75.0	43.3	34.6
45	9	9	9	9	9	9	9	9	9	43.3	216.3	125.0	187.5	108.3	162.4	69	63	93.7	54.1	43.3
54	9	9	9	9	9	9	9	9	9	52.0	259.6	150.0	225.0	130.0	194.9	83	75	112.5	65.0	52.0

Units with amperage draw of 48 amps or more require factory installed internal fusing.  
\*If the number of elements on non-fused models is different, it is indicated in parentheses ( ), following the AMP draw.

## GPH Recovery Capacities

kW Input	TEMPERATURE RISE								
	40°F	50°F	60°F	70°F	80°F	90°F	100°F	120°F	140°F
6	62	50	41	35	31	28	25	21	18
9	93	74	62	53	47	42	37	31	27
12	124	99	83	71	62	55	50	41	35
13.5	140	112	93	80	70	62	56	47	40
15	155	124	103	89	78	69	62	52	44
18	186	149	124	106	93	83	74	62	53
24	248	199	164	142	124	110	99	83	71
27	279	223	186	160	140	124	112	93	80
30	310	248	207	177	155	138	124	103	89
36	372	298	248	213	186	165	149	124	106
45	465	372	310	266	233	207	186	155	133
54	558	447	372	319	279	248	223	186	160

(Optional surface thermostats ranging from 80° to 140°F. are available)

## Sample Specification

The water heater shall be a Bradford White model with a rated storage capacity of not less than \_\_\_\_\_ gallons/ liters, a minimum kW input of \_\_\_\_\_, and a minimum recovery of \_\_\_\_\_ GPH/LPH at 100°F (56°C) temperature rise. It shall be design certified either with or without a separate storage tank. The tank shall be lined with Vitraglas® vitreous enamel and shall have a bolted hand hole cleanout. The tank shall have extruded magnesium anode rods installed in separate head couplings and extended to within three inches (76mm) of the bottom. The heater shall be insulated with not less than 3" (51mm) of Non-CFC foam. This water heater shall be equipped with an ASME rated T&P relief valve. The entire installation shall be made in compliance with state and local codes and ordinances.

**Dimensions and specifications subject to change without notice in accordance with our policy of continuous product improvement.**



For U.S. and Canada field service, contact your professional installer or local Bradford White sales representative.

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Warranty 800-531-2111 • Fax 269-795-1089 / International: Telephone 215-641-9400 • Telefax 215-641-9750 / Fax on Demand 888-538-7833 / www.bradfordwhite.com

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